

6 Jan 1992

GP0NN-C

METER, GAIN/PHASE

1. GENERAL. This procurement requires a general purpose, solid-state ac voltmeter capable of measuring gain, loss, and phase angles in degrees.

2. CLASSIFICATION. Type II, Class 5, Style E, and Color R in accordance with MIL-T-28800 for shipboard applications.

3. OPERATIONAL REQUIREMENTS. The equipment shall be capable of measuring gain, loss, and phase angle within the minimum parameters, accuracies, and limits specified below.

3.1 Frequency range. 10 Hz to 100 kHz.

3.2 Amplitude functions. Log A, Log B, and Log B/A (ratio).

3.2.1 Log A and Log B functions. When either the Log A or Log B function is selected, the equipment shall measure the logarithmic amplitude of the corresponding input signal in dBV (1 Vrms = 0 dBV).

3.2.1.1 Log A and Log B range and accuracy. -74 dBV to 26 dBV. Resolution: 0.1 dBV. Accuracy: ± 1.3 dBV from 10 Hz to 100 kHz.

3.2.2 Log B/A function. When the Log B/A function is selected, the equipment shall measure the relative amplitude between the two input signals in dB, irrespective of frequency difference.

3.2.2.1 Log B/A range. -100 dB to 100 dB. Resolution: 0.1 dB.

3.3 Phase function. Range: 360° (-180° to $+180^\circ$). Resolution: 1° . Accuracy: $\pm 2^\circ$ at -30 dBV from 100 Hz to 12 kHz.

3.3.1 Phase function input levels. The equipment shall be capable of performing phase angle measurements between any two input signals that differ by less than 100 dB.

3.4 Input characteristics.

3.4.1 Input RC. 1 megohm shunted by 30 pF, nominal.

3.4.2 Maximum input without damage. 20 Vrms or ± 40 Vdc.

4. GENERAL REQUIREMENTS.

4.1 Power source. MIL-T-28800 nominal power source requirements are invoked. Maximum power consumption: 40W.

4.2 Weight. 20 kg (44 lb) maximum.

4.3 Lithium batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.